

CLAIMS

The following is a detailed listing of all claims that are, or were, in the Application.

1-11. (Canceled)

12. (Currently amended) A method implemented by an apparatus for supplying [[an]] electronic documents based on XML ~~using a syntax defining a structure of the electronic document~~, the method[[,]] comprising:

supplying from a provider of a program broadcasting system to a client in the program providing system an electronic document that uses XML to describe programming information about a plurality of television broadcast programs scheduled for broadcast in the program broadcasting system, the electronic document having a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information; and

supplying from the provider to the client an update document to update content in the previously supplied electronic document, the update document including the upper fragment and an invalid element to delete identify an invalid content portion in one of the lower fragments in the hierarchical structure, of metadata at the client, wherein the invalid content portion of metadata is related to one of the [[a]] television broadcast programs contained described in [[a]] the previously supplied electronic document, and wherein the update document indicates deletion of said invalid content portion of metadata related to said television program is accomplished by identifying said portion of metadata in from the electronic document according to the invalid element.

13. (Canceled)

14. (Currently amended) The method of claim 12, wherein when the invalid element ~~contains indicates the deletion of~~ only said ~~invalid content portion of metadata to be deleted~~, only the ~~invalid content portion of metadata contained in the invalid element~~ is deleted ~~from the previously supplied electronic document at the client.~~

15. (Canceled)

16-19. (Canceled)

20. (Currently amended) A method implemented by an apparatus for updating metadata a previously supplied electronic document describing programming information about a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system-program, wherein the metadata previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

requesting by the client an updated version of said metadata previously supplied electronic document from a provider in the program broadcasting system;

in response to the request, receiving from the provider at the client an electronic update document based on XML to update content in the previously supplied electronic document, wherein the update document includes the upper fragment and having an invalid element which indicates that a content portion of said metadata is invalid in one of the lower fragments of the previously supplied electronic document, wherein the invalid content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system; and

deleting said invalid content portion from the previously supplied electronic document as of said metadata indicated to be invalid by the invalid element at said client.

21. (Canceled)

22. (Currently amended) A method implemented by an apparatus for updating [[an]] a previously supplied electronic document based on XML, wherein said previously supplied electronic document describes programming information about metadata for a plurality of television broadcasting broadcast programs scheduled for broadcast in a program broadcasting system, and the previously supplied electronic document that is stored in a client of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

requesting by the client an updated version of said previously supplied electronic document from a provider in the program broadcasting system;

in response to the request, receiving from the provider at the client an update document for updating content in said updated version of said previously supplied electronic document, said updated version of said electronic update document including the upper fragment and having an invalid element which indicates that at least a content portion of said metadata is invalid in one of the lower fragments of the previously supplied electronic document, wherein said invalid content portion of said metadata is identified by the invalid element and is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system; and

deleting said invalid content portion from the previously supplied electronic document as indicated of said metadata identified by the invalid element at said client.

23. (Canceled)

24. (Currently amended) The method of claim 22, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document, and wherein said syntax is XML schema.

25. (Currently amended) The method of claim 22, wherein said deleting includes identifying in the previously supplied electronic document said invalid content portion of said metadata identified by said invalid element at said client.

26. (Currently amended) The method of claim 22, wherein said invalid content portion of said metadata can be is indicated to be invalid by an invalid attribute.

27. (Currently amended) The method of claim 26, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of said previously supplied electronic document, wherein said syntax is XML schema.

28. (Currently amended) A method implemented by an apparatus for updating metadata a previously supplied electronic document related to a schedule of broadcasting a plurality of television broadcast programs in a program broadcasting system, wherein the metadata previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

requesting by the client an updated version for said metadata previously supplied electronic document from a provider in the program broadcasting system;

in response to the request, receiving from the provider at the client an update document for updating content in the previously supplied electronic document, the update document including the upper fragment and an invalid element which indicates an invalid content portion in one of the lower fragments of the previously supplied electronic document, wherein said invalid content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system; and

deleting said metadata invalid content portion from the previously supplied electronic document at said client when said metadata is as indicated to be invalid by [[an]] the invalid element in the update document supplied from said provider, wherein said metadata is identified by the invalid element.

29. (Canceled)

30. (Currently amended) The method of claim 28, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

31. (Currently amended) The method of claim 30, wherein said syntax is XML schema, ~~and wherein the broadcasting program is a television broadcasting program.~~

32. (Currently amended) The method of claim 28, wherein said deleting includes identifying in the previously supplied electronic document said metadata invalid content portion identified by said invalid element at said client.

33. (Currently amended) The method of claim 28, wherein said metadata can be invalid content portion is indicated to be invalid by an invalid attribute.

34. (Currently amended) The method of claim 33, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

35. (Previously presented) The method of claim 34, wherein said syntax is XML schema.

36. (Currently amended) A method implemented by an apparatus for updating metadata a previously supplied electronic document providing programming information related to [[a]] broadcasting a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein said metadata previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

receiving at a provider of the program broadcasting system a request from said client for an updated version of said metadata previously supplied electronic document; and

supplying from the provider to said client an update document to update content in the previously supplied electronic document, the update document including the upper fragment and with an invalid element from the provider, the invalid element indicating that a content portion in one of the lower fragments of said metadata previously supplied electronic document is invalid, wherein said metadata invalid content portion is identified by the invalid element to be deleted from the previously supplied electronic document, and the invalid

content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system.

37. (Canceled)

38. (Currently amended) The method of claim 36, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

39. (Previously presented) The method of claim 38, wherein said syntax is XML schema.

40. (Currently amended) The method of claim 36, wherein said invalid content portion is metadata can be indicated to be invalid by an invalid attribute.

41. (Currently amended) The method of claim 40, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document

42. (Previously presented) The method of claim 41, wherein said syntax is XML schema.

43. (Currently amended) A method implemented by an apparatus for updating metadata a previously supplied electronic document providing programming information related to a television broadcasting a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein said metadata previously supplied

electronic document is stored in a client of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

identifying a predetermined version of said metadata previously supplied electronic document as invalid;

from the client, receiving at a provider of the program broadcasting system a request for an updated version of said metadata previously supplied electronic document from said client; and

supplying from the provider to said client an update document to update content in the previously supplied electronic document, the update document including the upper fragment and with an invalid element from the provider, the invalid element indicating that a content portion in one of the lower fragments of said metadata previously supplied electronic document is invalid, wherein said metadata invalid content portion is identified by the invalid element to be deleted from the previously supplied electronic document, and the invalid content portion is related to one of the television broadcast programs scheduled for broadcast in the program broadcasting system.

44. (Canceled)

45. (Currently amended) The method of claim 43, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

46. (Previously presented) The method of claim 45, wherein said syntax is XML schema.

47. (Currently amended) The method of claim 43, wherein said invalid content portion is metadata can be indicated to be invalid by an invalid attribute.

48. (Currently amended) The method of claim 47, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

49. (Previously presented) The method of claim 48, wherein said syntax is XML schema.

50. (Currently amended) A method implemented by an apparatus for processing a response to a request for updating metadata a previously supplied electronic document related to a schedule of broadcasting a plurality of television broadcast programs in a program broadcast system, wherein said metadata previously supplied electronic document is stored in a client of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

receiving at the client an update document an invalid element from a provider in the program broadcasting system, the update document including the upper fragment and an invalid element to delete a content portion in one of the lower fragments of said metadata previously supplied electronic document, wherein said invalid element indicates that said metadata content portion is invalid, and wherein said metadata invalid content portion is identified by the invalid element and is related to one of the scheduled television broadcast programs;

identifying in the previously supplied electronic document said metadata invalid content portion identified by said invalid element at said client; and

controlling to delete said identified ~~metadata~~ invalid content portion from the previously supplied electronic document at said client.

51. (Canceled)

52. (Currently amended) The method of claim 50, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

53. (Currently amended) The method of claim 52, wherein said syntax is XML schema, ~~and wherein the broadcasting program is a television broadcasting program~~.

54. (Currently amended) The method of claim 50, wherein said invalid content portion is metadata can be indicated to be invalid by an invalid attribute.

55. (Currently amended) The method of claim 54, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

56. (Previously presented) The method of claim 55, wherein said syntax is XML schema.

57. (Currently amended) A method implemented by an apparatus for replying to a request for updating metadata a previously supplied electronic document related to a schedule of broadcasting a plurality of television broadcast programs in a program broadcast system, wherein said metadata previously supplied electronic document is stored in a client

of the program broadcasting system and has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, the method comprising:

supplying said client with an invalid element update document from a provider of the program broadcasting system, the update document including the upper fragment and an [[the]] invalid element to delete a content portion in one of the lower fragments of said metadata previously supplied electronic document at the client, wherein said invalid element indicates that said metadata content portion is invalid and should be deleted from the previously supplied electronic document, wherein the invalid content portion is related to one of the scheduled television broadcast programs.

58. (Canceled)

59. (Currently amended) The method of claim 57, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

60. (Previously presented) The method of claim 59, wherein said syntax is XML schema.

61. (Currently amended) The method of claim 57, wherein said invalid content portion is metadata can be indicated to be invalid by an invalid attribute.

62. (Currently amended) The method of claim 61, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

63. (Previously presented) The method of claim 62, wherein said syntax is XML schema.

64. (Currently amended) A method implemented by an apparatus for processing a response to a request for updating a previously supplied electronic document providing programming information about a plurality of television broadcast programs scheduled for broadcast in a program broadcasting system, wherein the previously supplied electronic document has a hierarchical structure including an upper fragment and a plurality of lower fragments located below the upper fragment in the hierarchical structure to describe, for each of the scheduled television broadcast programs, a program identifier, a title, broadcast information and corresponding program content information, wherein the response to the request provides an update document including the upper fragment and an invalid element which indicates that metadata stored in a client a content portion is invalid in one of the lower fragments of the previously supplied electronic document in response to a request for updating said metadata, wherein said metadata invalid content portion is related to [[a]] one of the scheduled television broadcast[[ing]] programs, the method comprising:

identifying said metadata invalid content portion in the previously supplied electronic document by using the invalid element of the update document at said client; and

controlling to delete said identified metadata invalid content portion from the previously supplied electronic document at said client.

65. (Canceled)

66. (Currently amended) The method of claim 64, wherein said invalid element is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

67. (Previously presented) The method of claim 66, wherein said syntax is XML schema.

68. (Currently amended) The method of claim 64, wherein said invalid content portion is metadata can be indicated to be invalid by an invalid attribute.

69. (Currently amended) The method of claim 68, wherein said invalid attribute is defined by a syntax defining [[a]] the hierarchical structure of [[an]] the previously supplied electronic document.

70. (Previously presented) The method of claim 69, wherein said syntax is XML schema.

71. (New) The method of claim 12, wherein the program content information includes a synopsis, casting information or a review.

72. (New) The method of claim 12, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.

73. (New) The method of claim 20, wherein the program content information includes a synopsis, casting information or a review.

74. (New) The method of claim 20, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.

75. (New) The method of claim 22, wherein the program content information includes a synopsis, casting information or a review.

76. (New) The method of claim 22, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.

77. (New) The method of claim 28, wherein the program content information includes a synopsis, casting information or a review.

78. (New) The method of claim 28, wherein the broadcast information specifies a broadcast service, a broadcast time, and a broadcast duration.